

Appl. No. 10/708,199  
Amdt. dated July 05, 2005  
Reply to Office action of April 19, 2005

**Amendments to the Claims:**

**Listing of Claims:**

Claim 1 (currently amended) A capacitive semiconductor pressure sensor comprising:

- 5 a non-single-crystal-silicon-based substrate selected from the group consisting of glass and quartz;  
a conductive movable polysilicon diaphragm;  
a polysilicon supporter positioned on the non-single-crystal-silicon-based substrate for fixing two ends of the polysilicon diaphragm and forming a  
10 sealed cavity between the polysilicon diaphragm and the non-single-crystal-silicon-based substrate;  
a stationary electrode positioned on the non-single-crystal-silicon-based substrate and below the polysilicon diaphragm, the stationary electrode and the polysilicon diaphragm constituting a plate capacitor; and  
15 a thin film transistor (TFT) control circuit positioned on the non-single-crystal-silicon-based substrate and electrically connected to the plate capacitor.

Claim 2 (cancelled)

20

Claim 3 (currently amended) The capacitive semiconductor pressure sensor of claim [[2]] 1 wherein the TFT control circuit is a low temperature polysilicon TFT control circuit.

25 Claim 4 (cancelled)

Claim 5 (currently amended) The capacitive semiconductor pressure sensor of claim [[4]] 1 wherein the TFT control circuit is a high temperature

Appl. No. 10/708,199  
Amdt. dated July 05, 2005  
Reply to Office action of April 19, 2005

polysilicon TFT control circuit.

Claim 6 (original) The capacitive semiconductor pressure sensor of claim 1  
wherein the stationary electrode comprises aluminum (Al), titanium (Ti),  
5 platinum (Pt), or alloys.

Claim 7 (original) The capacitive semiconductor pressure sensor of claim 1  
wherein the polysilicon diaphragm and the polysilicon supporter are  
formed simultaneously.

10

Claim 8 (original) The capacitive semiconductor pressure sensor of claim 1  
wherein the polysilicon diaphragm is a doped polysilicon diaphragm.

Claim 9 (original) The capacitive semiconductor pressure sensor of claim 1  
15 wherein the non-single-crystal-silicon-based substrate further comprises a  
thin film transistor display region for displaying a variation of pressure  
detected by the capacitive semiconductor pressure sensor.

Claim 10 (currently amended) A capacitive semiconductor pressure sensor  
20 comprising:

an insulating substrate selected from the group consisting of glass and  
quartz;

a conductive movable diaphragm;

a supporter positioned on the insulating substrate for fixing two ends of the  
25 diaphragm and forming a sealed cavity between the diaphragm and the  
insulating substrate;

a stationary electrode positioned on the insulating substrate and below the  
diaphragm; and

Appl. No. 10/708,199  
Amdt. dated July 05, 2005  
Reply to Office action of April 19, 2005

a control circuit electrically connected to the diaphragm and the stationary electrode.

5 Claim 11 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the stationary electrode comprises aluminum (Al), titanium (Ti), platinum (Pt), or alloys.

10 Claim 12 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the diaphragm and the supporter are formed simultaneously.

Claim 13 (original) The capacitive semiconductor pressure sensor of claim 12 wherein the supporter comprises polysilicon.

15 Claim 14 (original) The capacitive semiconductor pressure sensor of claim 13 wherein the diaphragm comprises a doped polysilicon.

Claim 15 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the diaphragm comprises a conductive material.

20 Claim 16 (cancelled)

25 Claim 17 (currently amended) The capacitive semiconductor pressure sensor of claim [[16]] 10 wherein the control circuit is positioned on the ~~glass~~ insulating substrate and the control circuit comprises a low temperature polysilicon thin film transistor control circuit.

Claim 18 (cancelled)

Appl. No. 10/708,199  
Amdt. dated July 05, 2005  
Reply to Office action of April 19, 2005

Claim 19 (currently amended) The capacitive semiconductor pressure sensor of claim ~~[[18]]~~ 10 wherein the control circuit is positioned on the ~~quartz~~ insulating substrate and the control circuit comprises a high temperature polysilicon thin film transistor control circuit.

5

Claim 20 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the control circuit is positioned on a printed circuit board (PCB) and is electrically connected to the stationary electrode and the diaphragm via a flexible printed circuit (FPC) board.

10

Claim 21 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the control circuit is positioned on a flexible printed circuit (FPC) board, the control circuit being electrically connected to the stationary electrode and the diaphragm via the flexible printed circuit board.

15

Claim 22 (original) The capacitive semiconductor pressure sensor of claim 10 wherein the insulating substrate further comprises a thin film transistor display region for displaying a variation of pressure detected by the capacitive semiconductor pressure sensor.

20